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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,774	01/22/2004	Adi A. Scheidemann	UWOTL122023	7537
26389	7590	09/22/2004	EXAMINER	
CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC			HASHMI, ZIA R	
1420 FIFTH AVENUE			ART UNIT	
SUITE 2800			PAPER NUMBER	
SEATTLE, WA 98101-2347			2881	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/763,774	<b>Applicant(s)</b> SCHEIDEMANN ET AL.	
	<b>Examiner</b> Zia R. Hashmi	<b>Art Unit</b> 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 27-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/21/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

1. A "Preliminary Amendment" was received on January 22, 2004. Claims 1-26 have been canceled, as indicated.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 27-35 are rejected under U.S.C. 103(a) as being unpatentable over Whitehead ( 3,659,236 ), in view of Sinha et al. ( 5,317,151 ).

4. With respect to independent claims 27 and 35, Whitehead discloses a method for linearly dispersing charged particles by their mass-energy-to-charge ratios ( col. 5, lines 19-38 and Fig. 14 ), comprising introducing charged particles into an inhomogeneous magnetic field ( Abstract, lines 1-2, col. 1, lines 37-39, col. 2, lines 35-70 ) that provides a linear dispersion of the charged particles proportional to their mass-energy-to-charge ratio ( col. 3, lines 3-25 and Fig. 3 ). It is understood that the units of mass-energy-to-charge ratio essentially represent momentum per unit charge. As pointed out by Whitehead, his invention is particularly suited for use in systems where a beam of charged particles "possessing a spectrum of widely distributed momentum components", are transmitted, focused or defocused ( col. 1, lines 42-46 ). Furthermore,

the dispersion of different masses by magnetic field as depicted in Fig. 3, essentially represents integration of equations representing motion of charged particles in target magnetic field ( well known in this art—for example refer to " Mass Spectrometry" by R.I. Reed, Academic Press, 1965 ) and of adjusting the target field to match desired charged particle trajectories ( col. 2, lines 43-70, col. 3, lines 3-25, and Fig. 1 and 3 ).

5. With respect to claims 27-35, Whitehead fails to disclose the use of magnetic separator for dispersing charged particles by magnetic field resulting in their momentum separation. Sinha et al., however, disclose use of a magnetic separator to isolate different masses ( col. 1, lines 42-44, col. 2, lines 66-67, col. 3, line 1, and 12-14 in Fig. 14 ), wherein their magnet comprises two poles separated by a gap through which pass charged particle beams ( Abstract, lines 1-5, col. 2, lines 73-74, col. 4, lines 35-39, col. 12, claim 14, and Fig. 13 ).

It would have been obvious to one having ordinary skill at the time of the invention was made to combine methods and apparatus of Whitehead and Sinha et al., because Whitehead teaches ( col. 1, lines 32-39 ) that by using an inhomogeneous magnetic field, one can avoid, for mass separation, the undesirable non-linear scale relationship between a uniform magnetic field and the inverse square root of masses involved from a mono-energetic source of ions.

### **Conclusion**


6. Geerk discloses ( 3,967,116 ) a mass spectrometer which has a special homogeneous magnetic sector which provides sharp focusing of separated ions.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473. The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

September 7, 2004

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800